REMARKS

Claims 1, 8, 9, 11, 12 and 14-23 are pending and stand ready for further action on the merits. Claims 2-7, 10 and 13 have been cancelled. Claims 8, 11 and 12 have been withdrawn from consideration as being drawn to nonelected subject matter. Claim 23 has been added and finds support in the specification (see example 1). No new matter has been added.

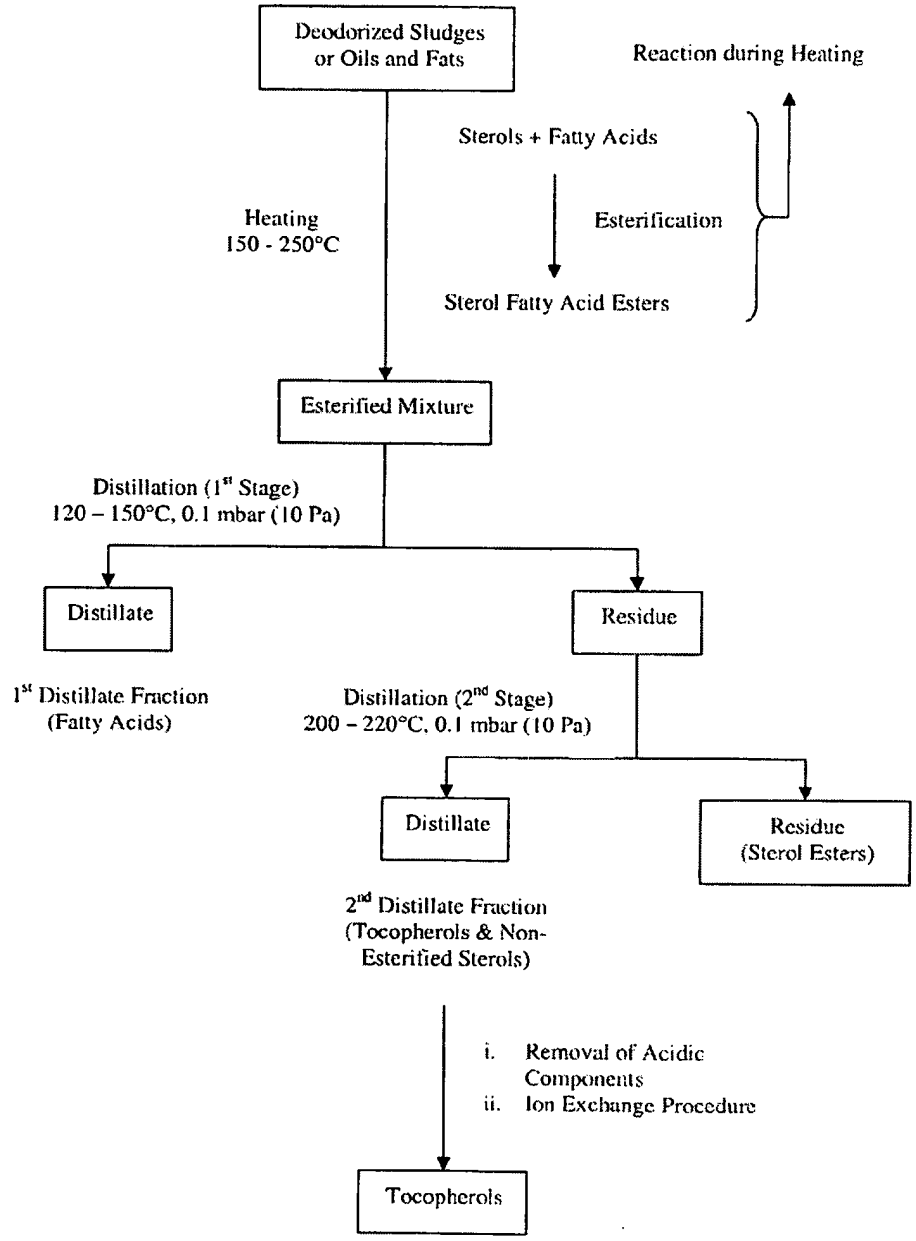
Issues Under 35 USC § 103

Claims 1, 9 and 14-22 are rejected under 35 USC § 103 for being unpatentable over Fizet (US 5,487,817) in view of Willging (US 4,550,183), Hattori (WO 01/32682) and Hirata et al. (JP 09-176507). Applicants respectfully traverse the rejection.

The subject matter of the present application is a method of recovering vitamin E (tocopherols), Phytosterols and squalene from palm oil by first converting the fatty acids and/or glycerides in palm oil to methyl esters before subsequent recovery steps. On the other hand, Fizet's method includes first converting the fatty acids in deodorizer sludges or oils and fats to sterol esters before subsequent recovery steps.

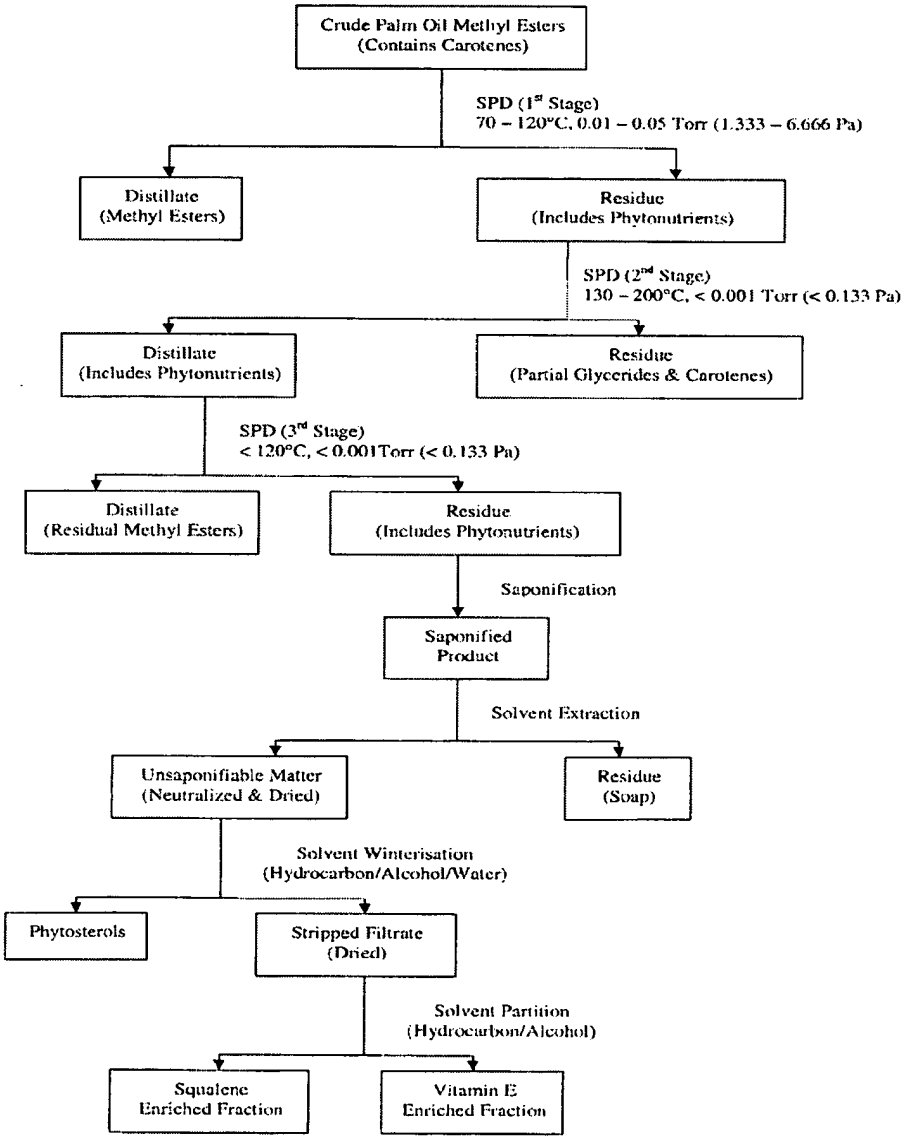
Methyl esters and sterol esters are clearly different compounds. This is shown by the fact that while sterol esters remain as a residue after two stages of distillation as shown in the following flow diagram:

Fizet's Method



As shown in the above diagram of Fizet's method, sterol esters are first formed and then remain as a residue after two stages of distillation. This is in distinction to the inventive method wherein methyl esters are formed and essentially all of the methyl esters are distilled out as distillates in the first stage of distillation as shown in the following nonlimiting flow diagram of the method of the present application.

Method of the Present Application



Accordingly, the methyl esters of the inventive method which are formed in the first step are different in structure and properties from the sterol esters of Fizet. Accordingly, significant patentable distinctions exist between the present invention and the teachings of Fizet.

In order to cure the deficiencies of Fizet, the Examiner cites Willging. The Examiner appears to apply Willging for teaching step of inventive claim 15 wherein "hexane and methanol is used in step e) to partition squalene into hexane layer and vitamin E into methanol layer."

First, in view of the fact that Willging does not teach or suggest a first step of forming palm oil methyl esters, Willging does not cure the deficiencies of Fizet, as set forth above.

Second, Applicants respectfully submit that the Examiner appears to misunderstand the teachings of Willging and the presently claimed process. Willging teaches the use of caustic methanol for purification of tocopherols. When comparing Willging's method with the method of the present application, the Examiner appears to take the view that the solvent mixtures used in the method of the present application for recovery of vitamin E (tocopherols), phytosterols and squalene from unsaponifiable matters contain caustic methanol as saponification proceeds in the presence of caustic substances, therefore the unsaponifiable matters obtained after saponification would contain residual caustic substances and when methanol is added to the unsaponifiable matters, the methanol would become caustic. However, this is not true as can be seen in Example 2 of the present application wherein it is stated that unsaponifiable matters are collected in the hexane layer and the hexane layer is neutralized and dried to form a concentrate of unsaponifiable matters before being contacted with the solvent mixtures (see examples 4 - 7) for recovery of vitamin E (tocopherols), phytosterols and squalene.

Since the hexane layer containing the unsaponifiable matters is neutralized, the concentrate of unsaponifiable matters would not contain caustic substances and the subsequently added methanol would not become caustic. The method of the present application does not use caustic methanol for purification of tocopherols. As such, significant patentable distinctions exist between the combination of Fizet and Willging and the presently claimed invention.

The Examiner cites Hirata et al. in order to cure the deficiencies of Fizet and Willging. Applicants respectfully submit that Hirata et al. do not cure the deficiencies of Fizet and Willging.

Hirata at al. teach the use of an organic solvent and urea or thiourea plus a hydrogenation step for recovery of squalene from a vegetable oil or a deacidified and deodorized distillate thereof. The method of present application does not use urea or thiourea or a hydrogenation step for recovery of squalene.

Now that the teachings by Fizet, Winging and Hirata at al. are found to be not relevant to the method of the present application and a person skilled in the art would not have been able to derive the method of the present application based on those teachings or the teachings by Hattori, we respectfully request for reconsideration and withdrawal of the rejection of claims under 35 U.S.C. 103(a).

As a side note, the Examiner will note that Hattori requires that the vegetable fat and/or oil is first esterified and then transesterified with a lower alcohol such as methanol, see page 5, first paragraph. In other words, Hattori does not teach or suggest going directly to the methyl ester as required by new claim 23.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, Ph.D., Esq. (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Dated: DEC 1 1 2007

Respectfully submitted,

By _____
Joe McKinney Muncy
For Registration No.: 32,334 #43,368
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

KM/GMD/mua